

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4-21-10 has been entered.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Frank Compagni, Esq. on 8-10-10.

The application has been amended as follows:

27. (currently amended) An apparatus for separating mud from water of an air-mud-water mixture, comprising:

a water tank defining a water reservoir and having a water tank inlet and a first water tank outlet in an upper portion thereof and a second water tank outlet in a bottom portion thereof; and

a separation device defining a mud-water reservoir and coupled to and disposed at least partially within the water tank and extending into the water tank so that the water tank at least partially surrounds the separation device, the water and mud-water reservoirs being separated by at least one wall of the separation device to prevent direct fluid communication between the water and mud-water reservoirs, and having a separation device inlet with a first end configured to be in fluid communication with a mud tank and a second end configured to be in fluid communication with the separation device in an upper portion of the separation device such that an air-mud-water mixture being pumped through the separation device inlet enters the separation device with mud and water in the air-mud-water mixture settling into the mud-water reservoir and air from the air-mud-water mixture being pumped through an outlet in a top portion of the separation device and into the water reservoir; and

a water ring pump coupled between and in fluid communication with the outlet of the separation device and the water tank inlet for pumping air from the separation device and air entrained water droplets into the water tank;

wherein the water tank inlet is oriented approximately tangentially to an outer wall of the water tank to cause cyclonic separation of the air entrained water droplets from the air, allowing the resulting water to collect in the water tank and the air to exit through the first water tank outlet;

~~whereby water droplets entrained in the air entering the water tank are collected in the water reservoir while the air flows out of the first water tank outlet.~~

In claim 30, line 1, "29" has been replaced with --27--.

Claim 29 has been canceled.

In claim 32, line 1, "29" has been replaced with --27--.

Claim 31 has been canceled.

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance: Sinz and Widemann are the nearest prior art to claim 27 but neither teach or fairly suggest that the water ring pump coupled between the outlet of the separation device and the water tank inlet for pumping air from the separation device and air entrained water droplets into the water tank, and that the water tank inlet is oriented approximately tangentially to an outer wall of the water tank to cause cyclonic separation of the air entrained water droplets from the air.

4. Sinz and Widemann are the nearest prior art to claim 37, but neither teach or fairly suggest that the water ring pump has an outlet which is connected to the water tank inlet and that the water tank inlet is oriented approximately tangentially to a wall of the water tank to form a cyclonic separator in the water tank.

5. The examiner also notes that U.S. Patent No. 5,326,383 to Harris ("Harris") teaches a liquid ring pump (**2**), cyclonic separator/tank (**either 12 or 18**), another tank (**24**), but that with respect to claim 27, Harris does not teach nor does Harris fairly suggest a water tank having a tangential inlet in communication with the water ring pump and defining a water reservoir, and that the separation device defines a mud-water reservoir and is coupled to and disposed at least partially within the water tank

and extending into the water tank so that the water tank at least partially surrounds the separation device, the water and mud-water reservoirs being separated by at least one wall of the separation device to prevent direct fluid communication between the water and mud-water reservoirs.

6. With respect to claim 37, Harris does not teach nor does Harris fairly suggest a water tank defining a water reservoir and having a tangential inlet coupled to the water ring pump outlet, and a gravitational separation device defining a mud-water reservoir in a lower portion thereof and coupled to and disposed at least partially within the water tank so that the water tank at least partially surrounds the separation device, the water and mud reservoirs being separated by walls of the separation device to prevent direct fluid communication between the water and mud reservoirs.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lucas Stelling whose telephone number is (571)270-3725. The examiner can normally be reached on Monday through Thursday 12:00PM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew O Savage/
Primary Examiner, Art Unit 1797